Hittite Green Solutions

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

PROPOSAL MONITORING

Catalina Island Low-Temperature Waste Heat Desalination Project

City of Avalon
410 Avalon Canyon Rd.
PO Box 707
Avalon, CA 90704

Department of Water Resources
2014 Water-Energy Grant Program

A Hittite desalination unit will be installed at the Southern California Edison (SCE) facility to treat and desalinate seawater to produce distilled water. This will reduce the potable water the facility is currently producing through reverse osmosis, which desalinates water at a salt water to fresh water ratio of 3:1 versus the Hittite system which desalinates water at a ratio of 2:1, and pumping from wells located 10 miles away from Avalon. The following system conditions will be monitored:

1) Volume of water SCE is processing from both RO and well pumps, and the energy required to produce this water before the installation of the Hittite system.

2) Volume of water SCE is processing from both RO and well pumps, and the energy required to produce this water after the installation of the Hittite system.

3) Volume of water produced by the Hittite desalination system and the energy used to produce it.

4) Quality of water entering the Hittite system.

5) Quality of water processed by the Hittite system.

6) GHG emissions before and after the project implementation for equivalent amounts of water from the RO and well pump systems.

7) The operational performance of the Hittite system when powered solely by waste heat.

8) The operational performance of the Hittite system when powered by fluctuating and varying waste heat sources. Evaluating the adaptability and scalability of the system.

Sensors, meters and gauges will be installed at control points of the system to measure and monitor the above. Theoretical calculations methods will be used where actual measurements are not practical/possible.

Quality of the water will be analyzed by an independent laboratory to verify the success of the desalination process.